SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANT: Weiner, Amy J. Houghton, Michael
- (ii) TITLE OF INVENTION: Conserved Motif of Hepatitis C Virus E2/NS1 Region
- (iii) NUMBER OF SEQUENCES: 134
- (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: Chiron Corporation
 - (B) STREET: 4560 Horton Street
 - (C) CITY: Emeryville
 - (D) STATE: CA
 - (E) COUNTRY: USA
 - (F) ZIP: 94608-2916



- (A) MEDIUM TYPE: Floppy disk (B) COMPUTER: IBM PC compatible
- (C) OPERATING SYSTEM: PC-DOS/MS-DOS
- (D) SOFTWARE: PatentIn Release #1.0, Version #1.25
- (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 08/823,980
 - (B) FILING DATE: 25-MARCH-1997
 - (C) CLASSIFICATION:
- (viii) ATTORNEY/AGENT INFORMATION:
 - (A) NAME: Goldman Kenneth M.
 - (B) REGISTRATION NUMBER: 34,174
 - (C) REFERENCE/DOCKET NUMBER: 0938.007
- (ix) TELECOMMUNICATION INFORMATION:
 - (A) TELEPHONE: 51|0-601-2719
 - (B) TELEFAX: 510-655-3542
- (2) INFORMATION FOR SEQ ID NO:1:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 6 amin acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear





(ii) MOLECULE TYPE: peptide

- (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 1
 - (D) OTHER INFORMATION: /label= variable /note= "Represents Ala, Arg, Asp, Gly, Lys, Ser, or Thr"
- (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 2
 - (D) OTHER INFORMATION: /label= variable /note= "Represents Ile, Leu, Met, Phe or Trp"
- (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 3
 - (D) OTHER INFORMATION: /label= variable /note= "Represents Leu or Phe"
- (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 6
 - (D) OTHER INFORMATION: /label= variable /note= "Represents Ala or Gly"
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

Xaa Xaa Xaa Xaa Xaa

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(2) INFORMATION FOR SEQ ID NO:2:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 32 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 1
 - (D) OTHER INFORMATION: /label =Dpr

/note=2,3-diaminopropionic is acetyl cysteine

- (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 2
 - (D) OTHER INFORMATION: /label=Ahe /note= 2-amino heptanoic is butyl alanine
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Xaa Xaa Glu Thr His Val Thr Gly Gly Ser Ala Gly His Thr Val Ser 15

5 10

Gly Phe Val Ser Leu Leu Ala Pro Gly Ala Lys Gln Asn Val Gln Leu 30 20 25

- (2) INFORMATION FOR SEQ ID NO:3:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 5 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
 - (ii) MOLECULE TYPE: peptide
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Val Ser Leu Leu Ala 5

(2) INFORMATION FOR SEQ ID NO:4:



- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 7 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Ser Leu Leu Ala Pro Gly Ala

- (2) INFORMATION FOR SEQ ID NO:5:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 5 amino acids

- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Leu Ala Pro Gly Ala 1 5

- (2) INFORMATION FOR SEQ ID NO:6:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 7 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
 - (ii) MOLECULE TYPE: peptide
 - (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 7
 - (D) OTHER INFORMATION: /label= variable /note= "Represents Ala, Pro or Ser"
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

Ser Leu Leu Xaa Xaa Gly Xaa

- (2) INFORMATION FOR SEQ ID NO:7:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 7 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
 - (ii) MOLECULE TYPE: peptide
 - (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 7
 - (D) OTHER INFORMATION: /label= variable /note= "Represents Ala, Pro or Ser"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:
Ser Leu Phe Xaa Xaa Gly Xaa 1 5
(2) INFORMATION FOR SEQ ID NO:8:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:
Xaa Thr Xaa Val Thr Gly Gly Xaa Ala Ala Arg Thr Thr Xaa Gly Xaa 1 5 10 15
Xaa Ser Leu Phe Xaa Xaa Gly Xaa Ser Gln Xaa Ile Gln Leu Ile 20 25 30
(2) INFORMATION FOR SEQ ID NO:9:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:
Ala Thr Tyr Ala Thr Gly Ala Ala Gln Gly His Ala Thr Asn Ser Phe 1 5 10 15
Val Ser Leu Phe Arg Ser Gly Ala Ser Gln Asn Leu Lys Leu Val 20 25 30
(2) INFORMATION FOR SEQ ID NO:10:
(i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide							
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:							
Ser Thr Gln Val Thr Gly Gly Gln Ala Ala His Thr Val Arg Gly Val 1 5 10 15							
Ala Ser Ile Phe Ser Pro Gly Ser Arg Gln Asp Ile Ser Leu Ile 20 25 30							
(2) INFORMATION FOR SEQ ID NO:11:							
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 							
(ii) MOLECULE TYPE: peptide							
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:							
Ser Thr Arg Val Thr Gly Gly Gln Gln Gly Arg Ala Val His Gly Ile 1 5 10 15							
Ala Ser Leu Phe Ser Leu Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30							
(2) INFORMATION FOR SEQ ID NO:12:							
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 							
(ii) MOLECULE TYPE: peptide							
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:							
Ser Thr His Val Met Gly Ala Gln Gln Gly Arg Val Ala Lys Gly Phe 1 5 10 15							
Thr Ser Leu Phe Gly Pro Gly Pro Ala Gln Lys Ile Gly Leu Ile 20 25 30							
(2) INFORMATION FOR SEQ ID NO:13:							

	(i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: peptide
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:
	Ser Thr His Val Thr Gly Ala Val Gln Gly His Ser Ile Arg Gly Leu 1 5 10 15
	Thr Ser Leu Phe Thr Ser Gly Pro Ala Gln Lys Ile Gln Leu Val 20 25 30
	(2) INFORMATION FOR SEQ ID NO:14:
	 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: peptide
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:
}	Glu Thr His Val Thr Gly Gly Ile Ala Ala Lys Thr Thr Ala Ser Leu 1 5 10 15
1	Thr Gly Leu Phe Asn Leu Gly Ala Lys Gln Asn Ile Gln Leu Ile 20 25 30
	(2) INFORMATION FOR SEQ ID NO:15:
	 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: peptide
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:
	Glu Thr His Val Thr Gly Gly Asn Ala Gly Arg Ala Ala Ala Gly Ile 1 5 10 15

Ala Gly Leu Phe Thr Leu Gly Ala Lys Gln Asn Val Gln Leu Ile 30 25 20 (2) INFORMATION FOR SEQ ID NO:16: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:16: Gln Thr Arg Val Thr Gly Gly Thr Ala Ala Gln Ser Thr Ala Arg Ile 5 Ala Gly Leu Phe Ser Leu Gly Ala Arg Gln Asn Ile Gln Leu Ile 25 (2) INFORMATION FOR SEQ ID NO:17: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:17: Gln Thr His Val Met Gly Gly Thr Ala Gly Arg Asn Ala Tyr Gly Leu 15 10 5 Thr Ser Phe Leu Ser Val Gly Ala Ser Gln Lys Ile Gln Leu Ile 30 25 20 (2) INFORMATION FOR SEQ ID NO:18: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:						
Glu Thr His Val Met Gly Gly Ala Ala Ser Ser Thr Thr Tyr Arg Ph 1 5 10 15	ıe					
Ala Ser Leu Phe Thr Ser Gly Pro Ala Gln Lys Ile Gln Leu Val 20 25 30						
(2) INFORMATION FOR SEQ ID NO:19:						
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 						
(ii) MOLECULE TYPE: peptide						
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:						
Glu Thr His Val Thr Gly Gly Ser Ala Ala Ser Thr Thr Ala Thr Pho	е					
Ser Lys Leu Phe Met Pro Gly Ala Ser Gln Asn Ile Gln Leu Ile 20 25 30						
(2) INFORMATION FOR SEQ ID NO:20:						
(i) SEQUENCE CHARACTERISTICS:(A) LENGTH: 31 amino acids(B) TYPE: amino acid(C) STRANDEDNESS: single(D) TOPOLOGY: linear						
(ii) MOLECULE TYPE: peptide						
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:						

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Gly Th	or Thr Arg Va 5	ıl Gly Gly Ala 10	a Ala Ala Arg Thr Thr Ser Ser Phe 15
Ala Se	r Leu Leu Th 20	r His Gly Pro 25	Ser Gln Asn Ile Gln Leu Val 30
(2) INFOI	RMATION F	OR SEQ ID 1	NO:21:
(A) (B) (C)	LENGTH: 3 TYPE: amino	NESS: single	3
(ii) MO	LECULE TY	PE: peptide	
(xi) SE	QUENCE DE	ESCRIPTION	: SEQ ID NO:21:
Gly Th 1	r His Val Thi 5	r Gly Gly Ala 10	Ala Ala Arg Asp Ala Phe Arg Phe 15
Ser Ser	Leu Phe Thi	Arg Gly Pro 25	Ser Gln Asn Ile Gln Leu Ile 30
(2) INFOI	RMATION F	OR SEQ ID 1	NO:22:
(A) (B) (C)	LENGTH: 3 TYPE: amino	NESS: single	3
(ii) MO	LECULE TY	PE: peptide	
(xi) SE	QUENCE DE	ESCRIPTION	: SEQ ID NO:22:
Ala Th 1	r Asn Met Th 5	nr Gly Gly Al 10	a Pro Ala Arg Thr Thr Tyr Lys Leu 15
Thr Th	r Leu Phe Se 20	r Tyr Gly Ala 25	Ser Gln Lys Ile Gln Leu Ile 30
(2) INFOI	RMATION F	OR SEQ ID 1	NO:23:
(A) (B)	LENGTH: 3 TYPE: amin	ARACTERIS 1 amino acids o acid NESS: single	

(D) TOPOLOGY: linear							
(ii) MOLECULE TYPE: peptide							
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:							
His Asn His Val Thr Gly Gly Thr Ser Ala Arg Asn Thr Phe Gly II	e						
Thr Thr Leu Phe Thr Gln Gly Pro Ser Gln Lys Leu Gln Leu Val 20 25 30							
(2) INFORMATION FOR SEQ ID NO:24:							
(i) SEQUENCE CHARACTERISTICS:(A) LENGTH: 31 amino acids(B) TYPE: amino acid(C) STRANDEDNESS: single(D) TOPOLOGY: linear							
(ii) MOLECULE TYPE: peptide							
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:							
Gly Thr His Val Thr Gly Gly Ala Ala Ala Arg Asn Ala His Ser Le 1 5 10 15	∍u						
Thr Ser Leu Leu Ala Pro Gly Ala Ser Gln Lys Ile Gln Leu Ile 20 25 30							
(2) INFORMATION FOR SEQ ID NO:25:							
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 							
(ii) MOLECULE TYPE: peptide							
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:							
Thr Thr Arg Val Ser Gly Gly Thr Ala Ala His Thr Thr Ala Gly Le 1 5 10 15	u						
Thr Ser Leu Phe Ser Pro Gly Pro Arg Gln Asn Ile His Leu Val 20 25 30							

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

Thr Thr His Val Ser Gly Gly Thr Ala Gly Arg Thr Thr Ala Ser Leu 15

10

Thr Ser Phe Phe Ala Pro Gly Ala Ser Gln Arg Ile Gln Leu Val 25

(2) INFORMATION FOR SEQ ID NO:27:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Thr Thr His Val Thr Gly Gly Ala Thr Gly His Thr Thr Ser Gly Ile 5 10 15

Ala Ser Leu Phe Leu Pro Gly Ala Ser Gln Lys Ile Gln Leu Ile 20 25

(2) INFORMATION FOR SEQ ID NO:28:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

Asp Thr Tyr Ala Ser Gly Gly Ala Gln Gly Arg Ser Thr Leu Gly Phe 10 Thr Ser Leu Phe Thr Pro Gly Ala Ser Gln Lys Ile Gln Leu Ile 25 (2) INFORMATION FOR SEQ ID NO:29: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:29: Asp Thr Tyr Ala Ser Gly Gly Ala Ala Gly Arg Ala Thr Tyr Gly Ile 5 10 15 Thr Ser Leu Phe Ala Pro Gly Ala Ser Gln Asn Ile Gln Leu Ile 25 30 20 (2) INFORMATION FOR SEQ ID NO:30: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:30: Arg Thr Tyr Ala Ser Gly Gly Ala Ala Gly Arg Thr Thr His Gly Phe 10 15 Thr Ser Leu Phe Ser Thr Gly Ala Arg Gln Asn Ile Gln Leu Ile (2) INFORMATION FOR SEQ ID NO:31: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single

(ii) MOLECULE TYPE: peptide							
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:							
Gln Thr Tyr Val Thr Gly Gly Lys Ala Ala Gln Thr Val Ser Gly Phe 1 5 10 15							
Thr Gly Leu Phe Ser Ser Gly Pro Ser Gln Lys Ile Gln Leu Ile 20 25 30							
(2) INFORMATION FOR SEQ ID NO:32:							
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 							
(ii) MOLECULE TYPE: peptide							
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:							
Asp Thr Tyr Val Ser Gly Gly Ala Ala Ala Arg Ser Ile Ser Gly Phe 1 5 10 15							
Thr Ser Leu Phe Thr Pro Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30							
(2) INFORMATION FOR SEQ ID NO:33:							
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 							
(ii) MOLECULE TYPE: peptide							
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:							
Ser Thr Tyr Val Thr Gly Gly Glu Ala Ser Arg Thr Thr Arg Gly Phe 1 5 10 15							
Ala Ser Leu Phe Thr Leu Gly Ser Ser Gln Lys Ile Gln Leu Ile 20 25 30							

(D) TOPOLOGY: linear

(2)	INFORM	ATION	FOR	SEQ	ID NC	:34:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

Asn Thr Tyr Val Thr Gly Gly Ser Ala Gly Arg Ala Val Ala Gly Phe

5 10 15

Ala Gly Leu Leu Gln Pro Gly Ala Lys Gln Asn Val Gln Leu Ile 20 25 30

(2) INFORMATION FOR SEQ ID NO:35:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide



(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

His Thr Arg Val Thr Gly Gly Gln Val Ala Phe Arg Thr His Gly Leu
1 5 10 15

Val Ser Leu Phe Thr Gln Gly Pro Ser Gln Lys Ile Gln Leu Val 20 25 30

(2) INFORMATION FOR SEQ ID NO:36:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

	His Th	r His Val T 5	hr Gly Gly Arg 10	y Val Ala S 15	er Ser Thr Gin Ser Leu			
	Val Ser	r Trp Leu S 20	Ser Gln Gly Pro 25	Ser Gln Ly	ys Ile Gln Leu Val			
(2)) INFOI	RMATION	FOR SEQ ID	NO:37:				
	 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 							
	(ii) MC	LECULE	TYPE: peptide					
	(xi) SE	QUENCE	DESCRIPTION	N: SEQ ID	NO:37:			
	His Th	or Arg Val	Thr Gly Gly Va 10	al Gln Gly 15	His Val Thr Ser Thr Leu			
	Thr Se	er Leu Phe 20	Arg Pro Gly Al 25	a Ser Gln I 30	Lys Ile Gln Leu Val			
(2	2) INFO	RMATION	N FOR SEQ ID	NO:38:				
	 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 							
	(ii) Mo	OLECULE	TYPE: peptide	•				
	(xi) SI	EQUENCE	DESCRIPTIO	N: SEQ ID	NO:38:			
	Asn T	Thr Arg Va 5	l Thr Gly Gly V 10	al Gln Gly 15	Arg Asp Thr Ser Gly Le	u		

Val Ser Leu Phe Ser 20	Leu Gly Pro 25	Ser Gln Lys Ile Gln Leu Val 30			
(2) INFORMATION F	OR SEQ ID N	NO:39:			
(i) SEQUENCE CH (A) LENGTH: 3 (B) TYPE: amino (C) STRANDED (D) TOPOLOGY	l amino acids o acid NESS: single	3			
(ii) MOLECULE TY	PE: peptide				
(xi) SEQUENCE DE	ESCRIPTION	: SEQ ID NO:39:			
Asp Thr His Val Th 1 5	r Gly Gly Ala 10	a Gln Ala Lys Thr Thr Asn Arg Leu 15			
Val Ser Met Phe Al 20	a Ser Gly Pro 25	Ser Gln Lys Ile Gln Leu Ile 30			
(2) INFORMATION F	OR SEQ ID	NO:40:			
(i) SEQUENCE CH (A) LENGTH: 3 (B) TYPE: amin (C) STRANDEL (D) TOPOLOGY	1 amino acida o acid ONESS: single	S			
(ii) MOLECULE TY	YPE: peptide				
(xi) SEQUENCE DI	ESCRIPTION	N: SEQ ID NO:40:			
Glu Thr His Val Th	ır Gly Gly Ala 10	a Ser Ala Arg Thr Thr Gln Arg Phe 15			
Thr Ser Phe Phe As	sp Leu Gly Pr 25	o Ser Gln Lys Ile Gln Leu Val 30			
(2) INFORMATION I	FOR SEQ ID	NO:41:			
(i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids					

(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide							
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:							
Thr Thr Tyr Met Thr Gly Gly Ala Asn Ala Arg Thr Thr Gln Gly Phe 1 5 10 15	,						
Val Ser Leu Phe Thr Pro Gly Pro Ala Gln Lys Ile Gln Leu Val 20 25 30							
(2) INFORMATION FOR SEQ ID NO:42:							
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 							
(ii) MOLECULE TYPE: peptide							
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:							
Glu Thr His Val Thr Gly Gly Thr Ser Ala Arg Thr Thr Gln Gly Phe 1 5 10 15							
Val Ser Leu Phe Ser Ala Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30							
(2) INFORMATION FOR SEQ ID NO:43:							
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 							
(ii) MOLECULE TYPE: peptide							
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:							
Gly Thr His Val Thr Gly Gly Gln Ala Ala Arg Thr Thr Gln Ser Phe 1 5 10 15							
Thr Ser Leu Phe Ser Pro Gly Pro Gln Gln Lys Ile Gln Leu Ile 20 25 30							
(2) INFORMATION FOR SEQ ID NO:44:							

(i) SEOU	ENCE CHA	RACTERIS	TICS:	
• • • •		amino acids	1105.	
	PE: amino			
, ,		NESS: single		
٠,	POLOGY:	_		
(-)				
(ii) MOLE	ECULE TYPE	PE: peptide		
(xi) SEQU	ENCE DES	SCRIPTION:	SEQ ID NO:44:	
Arg Thr F	lis Val Thr	Glv Glv Lvs	Ala Ala His Thr Thr L	vs Glv Phe
1	5	10	15	,
_				
Ala Ser L	eu Phe Thr	Pro Gly Pro	Ser Gln Asn Ile Gln Le	u Ile
20		25	30	
(2) INFORM	ATION FO	R SEQ ID N	IO:45:	
		RACTERIS	TICS:	
		amino acids		
• ,	PE: amino			
		NESS: single		
(D) TC	POLOGY:	linear		
(")) (O) F		NT 1 1		
(11) MOLE	CULE TYP	E: peptide		
() SEOU	ENCE DEC	CDIDTION	SEO ID NO.45	
(XI) SEQU	ENCE DES	SCRIPTION:	SEQ ID NO:45:	
Glu The A	ra Vai Thr	Gly Ala Val	Gln Gly His Gly Ala L	eu Gly I eu
1	ng vai iii	10	15	cu Gly Leu
1	3	10	13	
Ala Ser L	eu Phe Thr	Pro Gly Pro	Ser Gln Lys Ile Gln Le	u Ile
20		25	30	
(2) INFORM	ATION FO	R SEQ ID N	O:46:	
(i) SEQU	ENCE CHA	RACTERIS	TICS:	

- .(2)
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
 - (ii) MOLECULE TYPE: peptide
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

Glu Thr Arg Val Thr Gly Ala Ile Ala Gly Arg Thr Ala Ser Ser Phe 1 5 10 15
Ala Gly Leu Phe Thr Ser Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30
(2) INFORMATION FOR SEQ ID NO:47:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:
Glu Thr Arg Val Thr Gly Gln Gln Val Gly Arg Thr Thr Gln Ser Leu 1 5 10 15
Thr Ser Leu Phe Thr Pro Gly Pro Ser Gln Thr Ile Gln Leu Ile 20 25 30
(2) INFORMATION FOR SEQ ID NO:48:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:
Gln Thr Arg Val Thr Gly Ala Gln Val Gly Arg Thr Thr Ser Ser Leu 1 5 10 15
Thr Ser Leu Phe Thr Pro Gly Pro Ser Gln Asn Ile Gln Leu Val 20 25 30
(2) INFORMATION FOR SEQ ID NO:49:
(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3 (B) TYPE: amino (C) STRANDED (D) TOPOLOGY	o acid NESS: single	
(ii) MOLECULE TY	PE: peptide	
(xi) SEQUENCE DE	ESCRIPTION	: SEQ ID NO:49:
Arg Thr Gln Val Th 1 5	r Gly Ala Glr 10	n Ala Gly His Thr Thr Ser Gly Leu 15
Ala Ser Leu Phe The 20	r Pro Gly Pro 25	Ser Gln Lys Ile Gln Leu Val 30
(2) INFORMATION F	OR SEQ ID 1	NO:50:
(i) SEQUENCE CH (A) LENGTH: 3 (B) TYPE: amino (C) STRANDED (D) TOPOLOGY	l amino acids o acid NESS: single	:
(ii) MOLECULE TY	PE: peptide	
(xi) SEQUENCE DE	ESCRIPTION	: SEQ ID NO:50:
Glu Thr His Val Thi 1 5	r Gly Gly Ser 10	Ala Gly His Thr Val Ser Gly Phe 15
Val Ser Leu Leu Ala 20	a Pro Gly Ala 25	Lys Gln Asn Val Gln Leu Ile 30
(2) INFORMATION F	OR SEQ ID 1	NO:51:
(i) SEQUENCE CH (A) LENGTH: 3 (B) TYPE: amino (C) STRANDED (D) TOPOLOGY	1 amino acids o acid ONESS: single	3
(ii) MOLECULE TY	PE: peptide	
(xi) SEQUENCE DE	ESCRIPTION	: SEQ ID NO:51:
Glu Thr His Val Th	r Gly Gly Ser 10	Ala Gly His Thr Val Thr Gly Ile 15

Ala Ser Le 20	eu Phe Thr	Ser Gly Ala I 25	Lys Gln Asn Ile Gln Leu Ile 30
(2) INFORM	ATION FO	OR SEQ ID N	O:52:
(A) LE (B) TY (C) ST	NGTH: 31 PE: amino	NESS: single	ΓICS:
(ii) MOLE	CULE TY	PE: peptide	
(xi) SEQU	ENCE DE	SCRIPTION:	SEQ ID NO:52:
Ser Thr H 1	is Val Thr	Gly Gly Thr 1	Ala Ala His Thr Val Ala Gly Phe 15
Ser Ser Le	eu Phe Thr	Val Gly Pro l 25	Lys Gln Asn Ile Gln Leu Ile 30
(2) INFORM	ATION FO	OR SEQ ID N	O:53:
(A) LE (B) TY (C) ST	NGTH: 31 PE: amino	NESS: single	TICS:
(ii) MOLE	CULE TY	PE: peptide	
(xi) SEQU	ENCE DE	SCRIPTION:	SEQ ID NO:53:
Glu Thr H	is Val Thr 5	Gly Gly Ala 10	Ala Ala Tyr Thr Ala Ala Gly Leu 15
Ala Ser L		Ser Gly Ala 25	Lys Gln Asn Ile Gln Leu Ile 30

(2) INFORMATION FOR SEQ ID NO:54:

(i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:
Glu Thr His Val Thr Gly Gly Ser Ala Gly Arg Thr Thr Ala Gly Le 1 5 10 15
Val Gly Leu Leu Thr Pro Gly Ala Lys Gln Asn Ile Gln Leu Ile 20 25 30
(2) INFORMATION FOR SEQ ID NO:55:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:
Gly Thr His Val Thr Gly Gly Ser Ala Gly Arg Ala Thr Ala Gly Ile 1 5 10 15
Ala Gly Leu Leu Thr Pro Gly Ala Arg Gln Asn Ile Gln Leu Val 20 25 30
(2) INFORMATION FOR SEQ ID NO:56:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:
Lys Thr His Val Thr Gly Gly Ser Ala Ala Arg Thr Thr Ser Gly Ile 1 5 10 15
Ala Ser Leu Leu Thr Pro Gly Ala Lys Gln Asn Val Gln Leu Ile

(D) TOPOLOGY: linear

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25

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(2) INFORMATION FOR SEQ ID NO:57:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

Lys Thr Tyr Val Thr Gly Gly Ser Gln Ala Gln Ala Thr Phe Gly Phe

1 5 10 15

Thr Ser Leu Leu Gln Gln Gly Ala Lys Gln Asn Ile Gln Leu Ile 20 25 30

(2) INFORMATION FOR SEQ ID NO:58:

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- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

Glu Thr Thr Val Thr Gly Gly Ser Ala Ala His Gly Ala Leu Gly Ile
1 5 10 15

Ala Ser Leu Phe Asn Gln Gly Ala Arg Gln Asn Ile Gln Leu Ile

20 25 30

(2) INFORMATION FOR SEQ ID NO:59:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid

	(C) STRANDEI (D) TOPOLOG		e
	(ii) MOLECULE T	YPE: peptide	
	(xi) SEQUENCE D	ESCRIPTION	I: SEQ ID NO:59:
	Glu Thr Tyr Val Th	nr Gly Gly Ala 10	a Ser Ala Arg Ser Thr Phe Thr Leu 15
	Val Gly Leu Phe L 20	ys Gln Gly Se 25	r Gln Gln Asn Ile Gln Leu Val 30
	(2) INFORMATION F	OR SEQ ID	NO:60:
	(i) SEQUENCE CH (A) LENGTH: 3 (B) TYPE: amin (C) STRANDEI (D) TOPOLOGY	11 amino acid 10 acid DNESS: single Y: linear	S
1			
` `	(xi) SEQUENCE D	ESCRIPTION	I: SEQ ID NO:60:
	Gln Thr Tyr Val Se 1 5	r Gly Gly Ser 10	Ser Gly Arg Thr Thr Ser Gly Leu 15
	Val Ser Ile Phe Ser 20	Pro Gly Ala S 25	Ser Gln Asn Leu Gln Leu Ile 30
	(2) INFORMATION F	OR SEQ ID	NO:61:
	(i) SEQUENCE CH (A) LENGTH: 3 (B) TYPE: amin (C) STRANDEI (D) TOPOLOGY	1 amino acida o acid ONESS: single	S
	(ii) MOLECULE T	YPE: peptide	

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

Glu Thr Tyr Val Ser Gly Gly Ala Ala Ala Gln Thr Thr Ala Arg Phe

1 5 10 15

Ala Gly Phe Phe Gln Ser Gly Ala Lys Gln Asn Ile Gln Leu Ile
20 25 30

(2) INFORMATION FOR SEQ ID NO:62:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

Glu Thr Tyr Val Ser Gly Gly Ser Ala Ala Gln Thr Thr Ala Gly Phe 1 5 10 15

Val Arg Leu Phe Glu Thr Gly Pro Lys Gln Asn Ile Gln Leu Ile 20 25 30

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(2) INFORMATION FOR SEQ ID NO:63:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

Ser Thr Tyr Val Ser Gly Gly Ala Gln Ala Arg Ala Ala Gln Gly Ile 1 5 10 15

Thr Ser Leu Phe Ser Arg Gly Ser Ser Gln Lys Ile Gln Leu Val 20 25 30

(2) INFORMATION FOR SEQ ID NO:64:

(A) LENGTH: 31 amin (B) TYPE: amino acid (C) STRANDEDNESS (D) TOPOLOGY: linea	: single
(ii) MOLECULE TYPE: po	eptide
(xi) SEQUENCE DESCRI	PTION: SEQ ID NO:64:
Ser Thr Tyr Val Thr Gly C 1 5 10	Gly Thr Gln Gly Arg Ala Ala Ser Gly Leu 15
Thr Ser Leu Phe Ser Ala C 20 25	Gly Ala Ser Gln Asn Ile Gln Leu Ile 30
(2) INFORMATION FOR SE	Q ID NO:65:
(i) SEQUENCE CHARAC (A) LENGTH: 31 amin (B) TYPE: amino acid (C) STRANDEDNESS (D) TOPOLOGY: linea	o acids : single
(ii) MOLECULE TYPE: po	eptide
(xi) SEQUENCE DESCRI	PTION: SEQ ID NO:65:
Asn Thr Tyr Val Ser Gly C	Gly Thr Ala Gly His Thr Gly His Gly Leu 15
Thr Ala Leu Phe Ser Pro C 20 25	Gly Ala Ser Gln Asn Ile Gln Leu Ile 30
(2) INFORMATION FOR SE	Q ID NO:66:
(i) SEQUENCE CHARAC (A) LENGTH: 31 amin (B) TYPE: amino acid (C) STRANDEDNESS (D) TOPOLOGY: linea	o acids : single
(ii) MOLECULE TYPE: pe	eptide
(xi) SEQUENCE DESCRI	PTION: SEQ ID NO:66:
Ser Thr Ile Val Ser Gly Gl	y Thr Val Ala Arg Thr Thr His Ser Leu 15

K1

(i) SEQUENCE CHARACTERISTICS:

Ala Ser Leu Phe Thr Gln Gly Ala Ser Gln Lys Ile Gln Leu Ile 20 (2) INFORMATION FOR SEQ ID NO:67: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:67: Glu Thr Tyr Thr Ser Gly Gly Ala Ala Ser His Thr Thr Ser Thr Leu 10 5 Ala Ser Leu Phe Ser Pro Gly Ala Ser Gln Arg Ile Gln Leu Val 30 25 (2) INFORMATION FOR SEQ ID NO:68: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:68: His Thr Leu Thr Thr Gly Gly His Ala Ala Arg Leu Thr Ser Gly Phe 10 15 5 Ala Gly Leu Phe Thr Pro Gly Pro Ser Gln Arg Ile Gln Leu Ile 30 25 20 (2) INFORMATION FOR SEQ ID NO:69: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid

(C) STRANDEDNESS: single (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:
Glu Thr Ile Val Ser Gly Gly Gln Ala Ala Arg Ala Met Ser Gly Leu 1 5 10 15
Val Ser Leu Phe Thr Pro Gly Ala Lys Gln Asn Ile Gln Leu Ile 20 25 30
2) INFORMATION FOR SEQ ID NO:70:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:
Glu Thr Tyr Thr Ser Gly Gly Asn Ala Gly His Thr Met Thr Gly Ile 1 5 10 15
Val Arg Phe Phe Ala Pro Gly Pro Lys Gln Asn Val His Leu Ile 20 25 30
2) INFORMATION FOR SEQ ID NO:71:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:
Thr Thr Tyr Thr Thr Gly Gly Asn Ala Ala Arg Thr Thr Gln Ala Leu 1 5 10 15
Thr Ser Phe Phe Ser Pro Gly Ala Lys Gln Asp Ile Gln Leu Ile 20 25 30
2) INFORMATION FOR SEC ID NO-72-

(A) L		ARACTERIS l amino acids o acid	
(C) S		NESS: single	
(ii) MOL	ECULE TY	PE: peptide	
(xi) SEQ	UENCE DE	ESCRIPTION	SEQ ID NO:72:
Glu Thr 1	Tyr Thr Thi	r Gly Gly Ser 10	Thr Ala Arg Thr Thr Gln Gly Leu 15
	Leu Phe Ser 20	Arg Gly Ala 25	Lys Gln Asp Ile Gln Leu Ile 30
(2) INFOR	MATION F	OR SEQ ID N	IO:73:
(A) L (B) T (C) S	ENGTH: 31 YPE: amino	NESS: single	
(ii) MOL	ECULE TY	PE: peptide	
(xi) SEQ	UENCE DE	SCRIPTION	SEQ ID NO:73:
Ala Thr 1	Tyr Thr Ser 5	Gly Gly Ser 10	Ala Ala Arg Thr Thr Gln Gly Phe
	Leu Phe Ser 0	Leu Gly Ser 25	Gin Gin Lys Ile Gin Leu Val 30
(2) INFORI	MATION FO	OR SEQ ID N	IO:74:
(A) L (B) T (C) S	ENGTH: 31 YPE: amino	NESS: single	TICS:
(ii) MOL	ECULE TY	PE: peptide	

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

Ala Thr Tyr Thr Thr Gly Gly Ser Val Ala Arg Thr Thr His Gly Phe

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1	5	10	15	
Ser Se	er Leu Phe S 20	Ser Gln Gly A 25	la Lys Gln As 30	sn Ile Gln Leu Ile
(2) INFO	RMATION	FOR SEQ ID	NO:75:	
(A (B) (C)) LENGTH) TYPE: am	EDNESS: sing	ds	
(ii) Mo	OLECULE	TYPE: peptide	e	
(xi) SI	EQUENCE :	DESCRIPTIO	N: SEQ ID N	O:75:
Val T 1	hr Tyr Thr 7 5	Γhr Gly Gly S 10	er Gln Ala Ar 15	g His Thr Gln Ser Val
Thr S	er Phe Phe 7 20	Thr Gln Gly P 25	ro Ala Gln Ai 30	rg Ile Gln Leu Ile
(2) INFO	RMATION	FOR SEQ IC	NO:76:	
(A (B) (C)) LENGTH:) TYPE: am	EDNESS: sing	ds	
(ii) Mo	OLECULE '	TYPE: peptide	e	
(xi) SI	EQUENCE :	DESCRIPTIO	N: SEQ ID N	O:76:
His T	hr Tyr Thr 1 5	Thr Gly Gly T 10	hr Val Ala Ar 15	g Ser Thr Gln Gly Leu
Val G	ly Phe Leu 20	Ser Pro Gly P 25	ro Ser Gln As 30	sn Ile Gln Leu Ile
(2) INFO	RMATION	FOR SEQ ID	NO:77:	

- (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid

` '	STRANDE TOPOLOG	DNESS: sing	gle		
(ii) MO	LECULE T	YPE: peptid	e		
(xi) SEC	QUENCE I	DESCRIPTIO	N: SEQ ID	NO:77:	
Thr Th 1	r Tyr Val S 5	er Val Gly H 10	is Ala Ser G 15	ln Thr Thr Arg	Arg Val
Ala Sei	r Phe Phe S 20	er Pro Gly Se 25	er Ala Gln L 30	ys Ile Gln Leu '	Val
(2) INFOR	RMATION	FOR SEQ ID	NO:78:		
(A) (B) (C) (D)	LENGTH: TYPE: ami STRANDE TOPOLOG	DNESS: sing	ds gle		
(xi) SE	QUENCE I	DESCRIPTIO	N: SEQ ID I	NO:78:	
Thr Th 1	r Thr Val S 5	er Gly Gly H 10	is Ala Ser G 15	ln Ile Thr Arg (Gly Val
Thr Sei	r Phe Phe S 20	er Pro Gly Se 25	er Ala Gln L 30	ys Ile Gln Leu	Val
(2) INFOR	RMATION	FOR SEQ II	NO:79:		
(A) (B) (C)	LENGTH: TYPE: ami	DNESS: sing	ds		
(ii) MO	LECULE T	YPE: peptid	e		
(xi) SEO	QUENCE I	DESCRIPTIO	N: SEQ ID	NO:79:	
Lys Th	ır Ser Leu T 5	hr Gly Val T 10	hr Arg Ala A	Arg Ala Ala Ala	a Arg Leu

Thr Ala Leu Phe Ser Ser Gly Pro Ser Gln Arg Ile Gln Leu Ile

20 25 30

(2) INFORMATION FOR SEQ ID NO:80:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

Gly Thr Ser Leu Thr Gly Gly Ala Arg Ala Arg Ala Arg Ala Ser Gly Leu 1 5 10 15

Ala Gly Leu Phe Ser Ser Gly Pro Ser Gln Arg Ile Gln Leu Ile 20 25 30

(2) INFORMATION FOR SEQ ID NO:81:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

Val Thr Gln Val Ser Pro Pro Gln Ala Gly Tyr Thr Thr Ser Val Leu
1 5 10 15

Thr Gly Ile Leu Ser Pro Gly Ala Lys Gln Asn Ile Gln Leu Val 20 25 30

(2) INFORMATION FOR SEQ ID NO:82:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:
Val Thr Gln Val Ser Gly Gly Gln Ala Gly Tyr Thr Thr Ser Val Leu 1 5 10 15
Thr Gly Ile Leu Ser Pro Gly Ala Lys Gln Asn Ile Gln Leu Val 20 25 30
(2) INFORMATION FOR SEQ ID NO:83:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:
Gly Thr Tyr Thr Val Gly Gly Ala Ser Ala Phe Thr Thr Ser Arg Leu 1 5 10 15
Thr Ser Leu Phe Ala Leu Gly Pro Ser Gln Arg Ile Gln Leu Val 20 25 30
(2) INFORMATION FOR SEQ ID NO:84:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:
Asn Thr His Thr Val Gly Gly Thr Glu Gly Phe Ala Thr Gln Arg Leu 1 5 10 15
Thr Ser Leu Phe Ala Leu Gly Pro Ser Gln Lys Ile Gln Leu Ile 20 25 30

(2) INFORMATION FOR SEQ ID NO:85:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:
Ser Thr Arg Thr Ala Gly Gly Ala Gln Ala Phe Asn Thr Tyr Gly Val 1 5 10 15
Ala Ser Ile Phe Ser Pro Gly Pro Ser Gln Arg Ile Gln Leu Val 20 25 30
(2) INFORMATION FOR SEQ ID NO:86:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:
Gln Thr His Thr Val Gly Gly Ser Thr Ala His Asn Ala Arg Thr Leu 1 5 10 15
Thr Gly Met Phe Ser Leu Gly Ala Arg Gln Lys Ile Gln Leu Ile

(2) INFORMATION FOR SEQ ID NO:87:

(i) SEQUENCE CHARACTERISTICS:

25

30

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid

20

- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:
Asn Thr Arg Thr Val Ala Gly Ser Ala Ala Ala Thr Thr Arg Gly Phe 1 5 10 15
Thr Ser Met Phe Ser Ser Gly Ser Lys Gln Asn Leu Gln Leu Ile 20 25 30
(2) INFORMATION FOR SEQ ID NO:88:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:
Gln Thr Arg Thr Val Gly Gln Val Gly His Ser Val Arg Gly Phe 1 5 10 15
Thr Ser Leu Phe Ser Ala Gly Ser Ala Gln Asn Ile Gln Leu Ile 20 25 30
(2) INFORMATION FOR SEQ ID NO:89:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:
Glu Thr His Thr Thr Gly Ala Val Ser Gly His Thr Thr Asn Val Leu 1 5 10 15
Thr Ser Leu Phe Ser Ser Gly Ser Ser Gln Asn Ile Gln Leu Ile

(2) INFORMATION FOR SEQ ID NO):90:
(i) SEQUENCE CHARACTERIST (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear	ICS:
(ii) MOLECULE TYPE: peptide	
(xi) SEQUENCE DESCRIPTION:	SEQ ID NO:90:
Val Thr Arg Thr Thr Gly Glu Val A	Ala Ala Arg Thr Ala Asn Thr Pho 15
Ala Ser Leu Phe Thr Thr Gly Pro S 20 25	er Gln Asn Ile Gln Leu Ile 30
(2) INFORMATION FOR SEQ ID NO	D:91:
 (i) SEQUENCE CHARACTERIST (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 	TICS:
(ii) MOLECULE TYPE: peptide	
(xi) SEQUENCE DESCRIPTION:	SEQ ID NO:91:
Thr Thr Tyr Ser Ser Gly Gln Glu A 1 5 10	Ala Gly Arg Thr Val Ala Gly Phe 15
Ala Gly Leu Phe Thr Thr Gly Ala 20 25	Lys Gln Asn Leu Tyr Leu Ile 30
(2) INFORMATION FOR SEQ ID NO	O:92:
(i) SEQUENCE CHARACTERIST (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear	TICS:
(ii) MOLECULE TYPE: peptide	

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:



Ser Thr Ser Val Val Gly Gly Arg Gln Ala Ser Ala Thr Phe Arg Phe 10 5 Thr Ser Phe Phe Ser Arg Gly Pro Thr Gln Glu Ile Lys Leu Ile 30 20 25 (2) INFORMATION FOR SEQ ID NO:93: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:93: Asn Thr Tyr Thr Thr Ala Gly Ser Met Ala Gln Ser Ile Tyr Arg Leu 15 10 Thr Asp Ile Phe Ser Thr Gly Pro Ser Gln Lys Leu Gln Leu Val 25 (2) INFORMATION FOR SEQ ID NO:94: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:94: Arg Thr Ile Leu Met Ala Gly Arg Gln Ala Glu Val Thr Gln Ser Phe Pro Gly Leu Phe Ser Leu Ala Pro Ser Gln Lys Ile His Leu Ile 25 (2) INFORMATION FOR SEQ ID NO:95: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single(D) TOPOLOGY: linear	
(ii) MOLECULE TYPE: peptide	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:	
Asp Thr Tyr Ala Thr Gly Gly Ser Val Ala Ser Ile Met Ala Gly Ile 1 5 10 15	
Ala Arg Phe Phe Ser Pro Gly Ala Arg Gln Asp Ile Gln Leu Ile 20 25 30	
(2) INFORMATION FOR SEQ ID NO:96:	
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 30 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 	
(ii) MOLECULE TYPE: peptide	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:	
Glu Thr Tyr Ala Thr Gly Ala Ser Ala Gly His Asp Val Ser Ser Phe 1 5 10 15	;
Ala Arg Leu Phe Ala Pro Gly Ala Arg Gln Asn Ile Gln Ile 20 25 30	
(2) INFORMATION FOR SEQ ID NO:97:	
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 	
(ii) MOLECULE TYPE: peptide	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:	
Glu Thr His Arg Thr Gly Gly Ser Ala Ala Arg Ser Thr Ala Gly Va 1 5 10 15	ıl
Ala Ser Leu Phe Thr Pro Gly Ala Arg Gln Asn Ile Gln Leu Ile	

- (2) INFORMATION FOR SEQ ID NO:98:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
 - (ii) MOLECULE TYPE: peptide
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:

Asn Thr Arg Ala Val Gly Met Val Gln Ser Arg Thr Thr Tyr Ala Leu 1 5 10 15

Thr Ser Leu Phe Asp Ser Gly Ala Ala Gln Lys Leu Gln Leu Val 20 25 30

- (2) INFORMATION FOR SEQ ID NO:99:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
 - (ii) MOLECULE TYPE: peptide
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:

Glu Thr F 1	lis Val Thr C 5	Gly Gly Ser A	Ala Gly Arg Thr Thr Ala Gly Leu 15
Val Gly L 20		Pro Gly Ala 25	Lys Gln Asn Ile Gln Leu Ile 30
(2) INFORM	IATION FOI	R SEQ ID N	O:100:
(A) LE (B) TY (C) ST	ENCE CHA ENGTH: 31 a PE: amino a RANDEDN DPOLOGY:	amino acids acid ESS: single	TICS:
(ii) MOLE	CULE TYP	E: peptide	
(xi) SEQU	JENCE DES	CRIPTION:	SEQ ID NO:100:
Glu Thr F 1	His Val Thr (5	Gly Gly Ser A	Ala Gly Arg Ser Val Leu Gly Ile Ala 15
Ser Phe L 20	eu Thr Arg (25		Gln Asn Ile Gln Leu Ile 0
(2) INFORM	IATION FO	R SEQ ID N	O:101:
(A) LI (B) TY (C) ST	ENCE CHA ENGTH: 31 a (PE: amino a TRANDEDN DPOLOGY:	amino acids acid ESS: single	TICS:
(ii) MOLE	ECULE TYP	E: peptide	
(xi) SEQU	JENCE DES	CRIPTION:	SEQ ID NO:101:
Glu Thr 1 1	Γyr Thr Ser (5	Gly Gly Ala 10	Ala Ser His Thr Thr Ser Thr Leu 15
Ala Ser L 20	_	Pro Gly Ala : 25	Ser Gln Arg Ile Gln Leu Val 30
(2) INFORM	MATION FO	R SEQ ID N	IO:102:
(A) LI	ENCE CHA ENGTH: 31	amino acids	

(C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:102:
Ala Thr Tyr Thr Ser Gly Gly Val Ala Ser His Thr Thr Ser Arg Phe 1 5 10 15
Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Arg Ile Gln Leu Val 20 25 30
(2) INFORMATION FOR SEQ ID NO:103:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:
Ala Thr Tyr Thr Ser Gly Ala Val Ala Ser His Thr Thr Ser Arg Phe 1 5 10 15
Thr Ser Phe Phe Ser Ser Gly Ala Ser Gln Arg Ile Gln Leu Val 20 25 30
(2) INFORMATION FOR SEQ ID NO:104:
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:104:
Ala Thr Tyr Thr Ser Gly Ala Val Ala Ser His Thr Thr Ser Arg Phe 1 5 10 15
Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Arg Ile Gln Leu Val

20 25

(2) INFORMATION FOR SEQ ID NO:105:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:105:

Ala Thr Tyr Thr Ser Gly Ala Val Ala Ser His Thr Thr Ser Gly Phe 1 5 10 15

30

Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Arg Ile Gln Leu Val 20 25 30

(2) INFORMATION FOR SEQ ID NO:106:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:106:

Glu Thr Tyr Thr Ser Gly Arg Val Ala Gly His Thr Thr Ser Gly Phe 1 5 10 15

Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Arg Ile Gln Leu Val 20 25 30

(2) INFORMATION FOR SEQ ID NO:107:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear



(ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:107: Ala Thr Tyr Thr Ser Gly Gly Val Ala Gly Arg Thr Thr Ser Gly 1 5 10 15 Phe Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30 (2) INFORMATION FOR SEQ ID NO:108: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:108: Glu Thr His Thr Thr Gly Arg Val Ala Gly His Thr Thr Ser Arg Ph 1 5 10 15 Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30 (2) INFORMATION FOR SEQ ID NO:109: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide				
Ala Thr Tyr Thr Ser Gly Gly Val Ala Gly Arg Thr Thr Ser Gly 1 5 10 15 Phe Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30 [2] INFORMATION FOR SEQ ID NO:108: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:108: Glu Thr His Thr Thr Gly Arg Val Ala Gly His Thr Thr Ser Arg Ph 1 5 10 15 Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30 (2) INFORMATION FOR SEQ ID NO:109: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide	(ii) MO	LECULE TY	/PE: peptide	
Phe Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30 [2] INFORMATION FOR SEQ ID NO:108: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:108: Glu Thr His Thr Thr Gly Arg Val Ala Gly His Thr Thr Ser Arg Ph 1 5 10 15 Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30 (2) INFORMATION FOR SEQ ID NO:109: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide	(xi) SEC	QUENCE DI	ESCRIPTION	: SEQ ID NO:107:
20 25 30 (2) INFORMATION FOR SEQ ID NO:108: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:108: Glu Thr His Thr Thr Gly Arg Val Ala Gly His Thr Thr Ser Arg Ph 1 5 10 15 Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30 (2) INFORMATION FOR SEQ ID NO:109: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide	_	_		
(i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:108: Glu Thr His Thr Thr Gly Arg Val Ala Gly His Thr Thr Ser Arg Ph 1 5 10 15 Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30 (2) INFORMATION FOR SEQ ID NO:109: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide				
(A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:108: Glu Thr His Thr Thr Gly Arg Val Ala Gly His Thr Thr Ser Arg Ph 1 5 10 15 Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30 (2) INFORMATION FOR SEQ ID NO:109: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide	(2) INFOR	MATION F	OR SEQ ID	VO:108:
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:108: Glu Thr His Thr Thr Gly Arg Val Ala Gly His Thr Thr Ser Arg Ph 1 5 10 15 Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30 (2) INFORMATION FOR SEQ ID NO:109: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide	(A) (B) (C)	LENGTH: 3 TYPE: amin STRANDEI	1 amino acids o acid ONESS: single	\$-
Glu Thr His Thr Thr Gly Arg Val Ala Gly His Thr Thr Ser Arg Ph 1 5 10 15 Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30 (2) INFORMATION FOR SEQ ID NO:109: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide	(ii) MO	LECULE TY	YPE: peptide	
Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30 (2) INFORMATION FOR SEQ ID NO:109: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide	(xi) SEC	QUENCE DI	ESCRIPTION	: SEQ ID NO:108:
20 25 30 (2) INFORMATION FOR SEQ ID NO:109: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide	_			
(i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide	Thr Sei			
 (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide 	(2) INFOR	RMATION F	OR SEQ ID	NO:109:
	(A) (B) (C)	LENGTH: 3 TYPE: amin STRANDEI	1 amino acids to acid ONESS: single	3
	(ii) MO	LECULE T	YPE: peptide	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:	(xi) SEC	QUENCE D	ESCRIPTION	: SEQ ID NO:109:
Glu Thr His Thr Thr Gly Arg Val Val Gly His Thr Thr Ser Gly 1 5 10 15	_	_		
Phe Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30	Phe Th			

(2) INFORMATION FOR SEQ ID NO:110:

(i) SEQUENCE CHAI (A) LENGTH: 31 a (B) TYPE: amino a (C) STRANDEDNI (D) TOPOLOGY: I	mino acids acid ESS: single	ΠCS:
(ii) MOLECULE TYPI	E: peptide	
(xi) SEQUENCE DESC	CRIPTION:	SEQ ID NO:110:
Glu Thr His Thr Thr G 1 5	Gly Arg Val . 10	Ala Gly Arg Thr Thr Ser Gly Pho 15
Thr Ser Leu Phe Ser Ser 20 2	•	er Gln Lys Ile Gln Leu Val 30
(2) INFORMATION FOR	R SEQ ID N	O:111:
(i) SEQUENCE CHAR (A) LENGTH: 31 a (B) TYPE: amino a (C) STRANDEDNI (D) TOPOLOGY: I	mino acids cid ESS: single	TICS:
(ii) MOLECULE TYPI	E: peptide	
(xi) SEQUENCE DESC	CRIPTION:	SEQ ID NO:111:
Thr Thr Tyr Thr Ser G 1 5	ly Gly Val A	Ala Gly Arg Thr Thr Ser Gly 15
Phe Thr Ser Leu Phe S 20	Ser Ser Gly A 25	Ala Ser Gln Lys Ile Gln Leu Val 30
(2) INFORMATION FOR	R SEQ ID N	O:112:
(i) SEQUENCE CHAR (A) LENGTH: 31 a (B) TYPE: amino a (C) STRANDEDNI (D) TOPOLOGY: 1	mino acids cid ESS: single	TICS:
(ii) MOLECULE TYPI	E: peptide	
(xi) SEQUENCE DESC	CRIPTION:	SEQ ID NO:112:
Lys Thr Tyr Thr Ser G 5	ily Gly Ala A	Ala Ser His Thr Thr Ser Arg 15

Phe Thr Ser Leu Phe Ser Pro Gly Ala Ser Gln Arg Ile Gln Leu Val 20 25 30 (2) INFORMATION FOR SEQ ID NO:113: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:113: Ser Thr Arg Val Thr Gly Gly Gln Gln Gly Arg Ala Val His Gly Ile 15 Ala Ser Leu Phe Ser Leu Gly Ala Ser Gln Lys Ile Gln Leu Val 25 20 (2) INFORMATION FOR SEQ ID NO:114: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear (ii) MOLECULE TYPE: peptide (xi) SEQUENCE DESCRIPTION: SEQ ID NO:114: Ser Thr Arg Val Thr Gly Gly Gln Gln Gly Arg Ala Val Gln Gly Phe Ala Ser Leu Phe Arg Leu Gly Ala Ser Gln Glu Ile Gln Leu Val 30 20 25 (2) INFORMATION FOR SEQ ID NO:115: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:115:			
Ser Thr Arg Val Thr Gly Gly Gln Gln Gly Arg Ala Val His Gly Ile 1 5 10 15			
Ala Ser Leu Phe Ser Leu Gly Ala Ser Gln Lys Asn Gln Leu Val 20 25 30			
2) INFORMATION FOR SEQ ID NO:116:			
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 			
(ii) MOLECULE TYPE: peptide			
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:116:			
Ser Thr Arg Val Thr Gly Gly Gln Gln Gly His Ala Ala His Ser Leu 1 5 10 15			
Thr Ser Leu Phe Arg Leu Gly Ala Ser Gln Asn Ile Gln Leu Val 20 25 30			
(2) INFORMATION FOR SEQ ID NO:117:			
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 			
(ii) MOLECULE TYPE: peptide			
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:117:			
Asn Thr Arg Val Thr Gly Gly Arg Gln Gly Arg Ala Ala His Ser Leu 1 5 10 15			

Thr Ser	Leu Phe Ser 20	Pro Gly Ala 25	a Ser Gln Asn Ile Gln Leu Val 30
(2) INFOR	RMATION F	OR SEQ ID	NO:118:
(A) (B) (C)	QUENCE CH LENGTH: 3 TYPE: amino STRANDED TOPOLOGY	l amino acid o acid NESS: singl	s
(ii) MO	LECULE TY	PE: peptide	
(xi) SE	QUENCE DE	ESCRIPTION	N: SEQ ID NO:118:
Gly Th 1	r Arg Val Th 5	r Gly Gly Ai 10	rg Gln Gly Arg Ala Ala His Ser Leu 15
Thr Se	r Leu Phe Sei 20	Pro Gly Ala 25	a Ser Glu Asn Ile Arg Leu Val 30
(2) INFOI	RMATION F	OR SEQ ID	NO:119:
(A) (B) (C)	QUENCE CH LENGTH: 3 TYPE: amin STRANDED TOPOLOGY	1 amino acid o acid NESS: singl	ls
(ii) MO	LECULE TY	PE: peptide	
(xi) SE	QUENCE DI	ESCRIPTION	N: SEQ ID NO:119:
Ser Th 1	r Arg Val Ser 5	r Gly Gly Gli 10	n Gln Gly Arg Ala Ala His Ser Leu 15
Thr Se	r Leu Phe Th 20	r Leu Gly Al 25	la Ser Gln Asn Ile Gln Leu Val 30
(2) INFO	RMATION F	OR SEQ ID	NO:120:
(A) (B) (C)	QUENCE CH LENGTH: 3 TYPE: amin STRANDEL TOPOLOGY	1 amino acid o acid DNESS: sing	ds

(ii) MOLECULE TYPE: peptide

	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:120:	
	Ser Thr His Val Thr Gly Ala Leu Gln Gly Arg Ala Ala Tyr Gly II	e
	Thr Ser Phe Leu Ser His Gly Pro Ser Gln Lys Ile Gln Leu Val 20 25 30	
	2) INFORMATION FOR SEQ ID NO:121:	
	 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 	
	(ii) MOLECULE TYPE: peptide	
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:121:	
	Ser Thr Gln Val Met Gly Gly Gln Gln Gly Arg Ala Ala Tyr Ser L 1 5 10 15	eu
	Ala Ser Leu Leu Ser Pro Gly Ala Asn Gln Lys Ile Gln Leu Val 20 25 30	
	(2) INFORMATION FOR SEQ ID NO:122:	
-	 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 	
	(ii) MOLECULE TYPE: peptide	
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:122:	
	Ser Thr Gln Val Met Gly Gly Gln Gln Gly Arg Ala Ala Tyr Ser L 1 5 10 15	eu
	Ala Ser Leu Leu Gly Pro Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30	
	(2) INFORMATION FOR SEQ ID NO:123:	
	(i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids	

- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:123:

Ser Thr Gln Val Met Gly Gly Gln Gln Gly Arg Ala Ala Tyr Ser Leu 1 5 10 15

Ala Ser Leu Leu Ser Pro Gly Ala Ser Gln Lys Ile Gln Leu Val 20 25 30

- (2) INFORMATION FOR SEQ ID NO:124:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
 - (ii) MOLECULE TYPE: peptide
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:124:

Arg Thr Arg Thr Val Gly Gly Gln Val Gly His Ser Val Arg Gly Phe 1 5 10 15

K1

Thr Ser Leu Phe Ser Ala Gly Ser Ala Gln Asn Ile Gln Leu Ile 20 25 30

- (2) INFORMATION FOR SEQ ID NO:125:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
 - (ii) MOLECULE TYPE: peptide
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:125:

Gln Tl 1	hr Arg Thr V 5	al Gly Gly Gl 10	n Val Gly His Ser Val Arg Gly Phe 15
Thr Se	er Leu Phe Se 20	er Ala Gly Ser 25	Ala Gin Asn Ile Gin Leu Ile 30
(2) INFO	RMATION 1	FOR SEQ ID	NO:126:
(A) (B) (C)	LENGTH: 1 TYPE: amin	DNESS: single	S
(ii) MO	DLECULE T	YPE: peptide	
(xi) SE	QUENCE D	ESCRIPTION	N: SEQ ID NO:126:
Gln T	hr Arg Thr V 5	al Gly Gly Gl 10	n Val Gly His Ser Val Arg Gly Phe 15
Thr Se	er Leu Phe S 20	er Ala Gly Ser 25	· Ala Gln Asp Ile Gln Leu Ile 30
(2) INFO	RMATION	FOR SEQ ID	NO:127:
(A) (B) (C)) LENGTH:) TYPE: ami	DNESS: singl	S
(ii) MO	OLECULE T	YPE: peptide	
(xi) SE	EQUENCE D	DESCRIPTION	N: SEQ ID NO:127:
Gln T 1	hr Arg Thr V 5	/al Gly Gly Gl 10	In Val Gly His Ser Val Arg Gly Phe 15
Thr S	er Leu Leu S 20	er Ala Gly Se 25	r Ala Gln Asn Ile Gln Leu Ile 30
(2) INFO	RMATION	FOR SEQ ID	NO:128:
(A (B) LENGTH:) TYPE: ami	HARACTERI 31 amino acid no acid DNESS: singl	ls

	(D) TOPOLOGY: linear						
	(ii) MOLECULE TYPE: peptide						
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:128:						
	Gln Thr Arg Thr Val Gly Gly Gln Val Gly His Ser Val Arg Gly Leu 1 5 10 15						
	Thr Ser Leu Phe Ser Ala Gly Ser Ala Gln Asn Ile Gln Leu Ile 20 25 30						
	(2) INFORMATION FOR SEQ ID NO:129:						
	 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 						
	(ii) MOLECULE TYPE: peptide						
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:129:						
	Gln Thr Arg Thr Val Gly Gln Met Gly His Gly Val Arg Gly Leu 1 5 10 15						
1/1	Thr Ser Leu Phe Ser Ala Gly Ser Ala Arg Asn Ile Gln Leu Ile 20 25 30						
101	(2) INFORMATION FOR SEQ ID NO:130:						
	 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 31 amino acids (B) TYPE: amino acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 						
	(ii) MOLECULE TYPE: peptide						
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:130:						
	Gln Thr His Thr Val Gly Gly Gln Met Gly His Gly Val Arg Gly Leu 1 5 10 15						

Thr Sei	r Leu Phe Sei 20	r Ala Gly Ser 25	Ala Gln Asn Ile Gln Leu Ile 30
(2) INFOR	RMATION F	OR SEQ ID	NO:131:
(A) (B) (C)	LENGTH: 3 TYPE: amino	NESS: single	S
(ii) MO	LECULE TY	PE: peptide	
(xi) SEC	QUENCE DE	ESCRIPTION	N: SEQ ID NO:131:
Gln Th 1	r His Thr Va 5	l Gly Gly Glı 10	n Met Gly His Gly Val Arg Gly Leu 15
Thr As	n Leu Phe Se 20	er Ala Gly Se 25	er Ala Gln Asn Ile Gln Leu Ile 30
(2) INFOR	RMATION F	OR SEQ ID	NO:132:
(A) (B) (C)	LENGTH: 2- TYPE: amin	NESS: singl	S
(ii) MO	LECULE TY	PE: peptide	
(xi) SEC	QUENCE DE	ESCRIPTION	N: SEQ ID NO:132:
Glu Th 1	r His Val Th	r Gly Gly Ser 10	r Ala Gly His Thr Val Ser Gly Phe 15
Val Se	r Leu Leu Al 20	a Pro Gly Ala	a
(2) INFO	RMATION F	OR SEQ ID	NO:133:
(A) (B) (C)	LENGTH: 3 TYPE: amin	NESS: singl	s

(ii) MOLECULE TYPE: peptide

- (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 1
 - (D) OTHER INFORMATION: /label=Ahe /note= 2-amino heptanoic is butyl alanine
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:133:

Xaa Glu Thr His Val Thr Gly Gly Ser Ala Gly His Thr Val Ser Gly
1 5 10 15

Phe Val Ser Leu Leu Ala Pro Gly Ala Lys Gln Asn Val Gln Leu 20 25 30

- (2) INFORMATION FOR SEQ ID NO: 134:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 6 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
 - (ii) MOLECULE TYPE: peptide
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:134:

Ser Leu Phe Xaa Xaa Gly